

[IMAGE]

## **Keep Your Immune System Working Right**

### **How a Healthy Lifestyle and Proper Nutrition Help Your Body Defend Against Disease**

By Dr. David Seaman

The concept of "immune defense" is a misunderstood but often talked about topic. It is common to believe that we get cold and flu symptoms when our immune system is weak, which allows us to be overwhelmed by viral invaders. Accordingly, we believe that the invading viruses give us the cold/flu symptoms, and television commercials, health food store advertisements, and Web sites/articles support this view. As a result, we are naturally led to look for substances that can make our immune systems stronger. This approach, however, is mostly incorrect.

How about allergies? We typically hold the same view, which is that allergies develop because our immune system is weakened. This view is also mostly incorrect and understanding the treatment of allergies can help put immune function into better perspective. Anti-histamines are the most common medication used for treating allergies; each contains antihistamines in addition to pain/inflammation reducing acetaminophen. Allergy symptoms develop because of *too much* histamine release from the immune system, which is why we take anti-histamines. An overactive immune system is actually the problem. Allergy symptoms develop because of too much immune activity, not too little due to weakened immunity.

Gear man - Copyright â Stock Photo / Register Mark The message here is not that we should try to weaken the immune system, but rather to better understand immune function and act accordingly with nutritional and other lifestyle factors. The immune system has both pro-inflammatory and anti-inflammatory functions, and each is needed to be healthy. Too much or too little of one or the other is not healthy. When your immune system's working right, it helps defend against disease and responds to bacteria, viruses and other foreign invaders. When it's not working right, the exact opposite can happen.

#### **Stress and the Immune Response**

General cold and flu symptoms include malaise, loss of appetite, physical and mental fatigue, and aches and pains. The scientific term for these symptoms is the *acute phase response*, which is caused when the immune system actively releases excess amounts of certain inflammatory chemicals called cytokines, the most well-known of which are interleukin-1 (IL-1), interleukin-6 (IL-6), and tumor necrosis factor (TNF).

With this in mind, consider a time when you were psychologically stressed by an event or series of events and you developed cold/flu symptoms - the acute phase response. We have been conditioned to think along the lines of, "I am stressed out and run down, which lowered my resistance to cold viruses and now I am sick." Instead, what appears to happen is that psychologically stressful situations themselves activate the immune system in a similar fashion as viruses; inflammatory cytokines are produced in excess, which causes an acute phase response that we misinterpret as "catching a cold virus."

This relationship between psychological stress and cold symptom expression may seem hard to believe if you have not been exposed to this information before; however, even fever expression, which is a component of the acute phase response, can occur when we are psychologically stressed. It is known that public speaking can give people a fever. And animal research has shown that placing a rat in a new environment can produce a fever.

The key point to appreciate is that we all must learn to more effectively manage the various stressors in our lives so as to keep the immune system from being overactive and pro-inflammatory and thus reduce the expression of acute phase responses. This means getting proper exercise, adequate sleep, maintaining healthy relationships, and generally making the most healthy of lifestyle choices we can, particularly with regard to nutrition.

### **The Role of Good (and Bad) Nutrition**

Dr. David Seaman says it is common to believe that we get cold and flu symptoms when our immune system is weak, which allows us to be overwhelmed by viral invaders. Sneezing and coughing is terrible, but it's worse to be powerless in bed. Many men have problems with erection, which is bad for their relationship with the opposite sex. This problem is solved quickly with the help of Viagra. You can [buy Viagra without a prescription](#) in any online pharmacy. Viagra has helped millions of men to be more effective at sexual intercourse and to please their women. Use Viagra and everything will be fine. Most online pharmacies deliver Viagra for free. For more effective use of Viagra it is better to consult with a doctor, this is not necessary but will allow you to choose the right schedule for the treatment of erectile dysfunction.

Researchers have also uncovered that there is an interplay between diet, psychological stressors, and pro-inflammatory immune activation. Stressful events such as taking a difficult academic oral examination leads to an increase in immune activity. The pro-inflammatory acute phase response appears to be greater in students with elevated blood levels of pro-inflammatory omega-6 fatty acids and with low blood levels of anti-inflammatory omega-3 fatty acids.

Excessive amounts of omega-6 fatty acids are found in deep-fried foods, fatty meat, farm-raised tilapia and catfish, and all foods made with corn, safflower, sunflower, cottonseed, peanut, and soybean oils. These foods promote inflammation and immune activation and thus should be avoided if we want to reduce acute phase responses. We should instead eat foods with low omega-6 fatty acids and proper levels of anti-inflammatory omega-3 fatty acids, including (but not limited to) green vegetables, wild game, grass-fed meat, most fish, and hemp, chia, and flax seeds. Supplementation with omega-3 fish oil is also beneficial.

An additional dietary factor that promotes inflammation is overeating. We typically view overeating as merely a means by which we put on additional body fat; however, it turns out that immediately after overeating, we create a pro-inflammatory immune response that includes the excess production of the same cytokines that cause the acute phase response.

This information should make us think about what we do to ourselves during the holiday season - we invite the expression of an acute phase response. We exercise less and eat more inflammatory foods. Psychological stressors also seem to be greater during this time of year, and most of the nation has to deal with a stressful cold environment. It all adds up to a breeding ground for immune response and symptom expression.

### **Nutritional Supplements to Support Healthy Immune Response**

It should not be a surprise that key supplements are those that reduce inflammation and thus, help to reduce the chemistry associated with an acute phase response. Here are a few examples:

*Vitamin C* has anti-inflammatory functions and thus can support a healthy immune response. Long-term use of vitamin C does not seem to be preventive against acute phase symptoms; however, increasing vitamin C supplementation to 200-1,000 mg per day seems beneficial during an acute phase response.

*Many spices:* It is common to read/hear that ginger, garlic and other spices are beneficial against cold symptoms and have been used historically in this fashion. Not surprisingly, most spices have multiple anti-inflammatory mechanisms of action, which is likely why they offer some immune-supportive benefits.

*Magnesium:* Intravenous magnesium has been shown to alleviate symptoms in acute and chronic asthma. Most Americans are known to be deficient in magnesium, which may contribute to the expression of a host of diseases. Typical supplement recommendations (in addition to amounts contained in a multivitamin/mineral) range from 400-1,000 mg per day.

Gingers - Copyright â Stock Photo / Register Mark *Probiotics* are supplemental bacteria that are beneficial to the gastrointestinal system. The most common probiotics include *Lactobacillus acidophilus* and *Bifidobacterium*. Research has demonstrated that probiotics reduce intestinal and overall body inflammation and support a healthy immune response.

*Vitamin D:* The most interesting nutrient regarding immune function is vitamin D. Several papers have been written about a unique function that vitamin D has - it reduces pro-inflammatory immune activity and improves anti-inflammatory immune activity. Adequate vitamin D levels are needed to help the body make a natural antibiotic called cathelicidin. In one study, subjects who took 2,000 IU of vitamin D per day for one year virtually eliminated self-reported incidence of colds and flu.

### **A Recipe for a Healthier You**

So when considering the immune system and nutrition, the focus should be on avoiding the foods that promote inflammation and focusing on the foods that reduce inflammation. The best supplements to support a healthy immune response include fish oil, vitamin C, herbs like ginger and garlic, magnesium, probiotics and vitamin D. Always talk to your doctor before taking any supplement for the first time, particularly if you have a pre-existing health condition or are currently taking prescription medication.

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**David Seaman, MS, DC, DACBN**, is the author of *Clinical Nutrition for Pain, Inflammation and Tissue Healing*. He has a master's degree in nutrition from the University of Bridgeport, Conn., and lectures on nutrition.

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